



Sensor-based Vital Sign Monitoring, Analysis and Visualisation for Ageing in Place

Kerr, E., Coleman, SA., Kerr, D., Vance, P., Gardiner, B., McGinnity, TM., Zhang, Y., Fei, W., & Wu, C. (Accepted/In press). Sensor-based Vital Sign Monitoring, Analysis and Visualisation for Ageing in Place. In *Unknown Host Publication* IEEE.

[Link to publication record in Ulster University Research Portal](#)

Published in:
Unknown Host Publication

Publication Status:
Accepted/In press: 14/03/2018

Document Version
Author Accepted version

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From: Teresa Ludermit <tbl@cin.ufpe.br>
Sent: 20 March 2018 20:12
To: Kerr, Emmett
Subject: IJCNN 2018 Paper #18870 Final Paper Submission Reminder

Dear Author(s),

Recently you received an e-mail confirming the acceptance of your paper:

Paper ID: 18870

Author(s): Emmett Kerr, Sonya Coleman, Dermot Kerr, Philip Vance, Bryan Gardiner, Yunzhou Zhang,

Wang Fei and Chengdong Wu

Title: Sensor-based Vital Sign Monitoring, Analysis and Visualisation for Ageing in Place

for presentation, in oral or poster format, at the IJCNN 2018 and for publication in the conference proceedings published by IEEE. A notification of the presentation format and timing of that presentation will be sent by May 15, 2018.

An important deadline of May 1, 2018 is approaching. Please review the information below and respond if you have not done so already.

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are Windsor Oceanico and Windsor Barra. Make your reservation early to enjoy the special Congress room rates (only limited number of rooms are available)!

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Karla Figueiredo

(karla.figueiredo@gmail.com) and Dr. Guilherme Barreto (gbarreto@ufc.br).

7. All papers have been reviewed in the same manner with the same standards and no distinction will be

made between oral and poster papers in the proceedings.

If you have any questions regarding the reviews of your paper or all other questions, please contact Teresa Ludermit <tbl@cin.ufpe.br>.

Sincerely,

Teresa Ludermir

IJCNN 2018 Conference Chair

REVIEWERS' COMMENTS

REVIEW NO. 1

Comments to the authors:

Main paper contributions:

Authors proposed the use of a vital sign measuring robotic system together with Cloud computing to intelligently process big data and ascertain the current health status of the service user.

They presented a method that enables medical professionals to visualize the data for a complete geographical region as well as for individual patients.

Positive aspects:

I like the idea to combine two separated technologies to accomplish their aim.

It was smart.

Suggestions on how to improve:

Why are you measuring only BMP, RR and CRT? Why these measurements and no others? Why did you not include the other ones commented on the related works? Do these 3 measurements are enough to assure that older adult is ok and he does not need assistance? Maybe blood pressure is important too. I understand if the research is ongoing. But you could say that you are working on other vital signs or justify why these.

I recommend to put the references of the devices mentioned in the introduction like kito azoi, scanadu scout, etc.

You emphasized that your approach provides an autonomous measurement, that it does not require a user or a medical personnel interaction. But I did not

understand how does the robot (the hand) function. In what times does the robot get the measurements? How many times a day or if it is continuous? In which position should be the older adult in order to be measured by the robot?

When the robot measures the vital signals, is it comfortable to the older adult?

Did you ask these to the 12 subjects?

What benefits does the robot present compared to a wearable device? I think the robot could be more intrusive than a wearable shirt sense.

How is the CRT calculated? How does the camera work? Could you explain these section in more detail?

You commented you did measurements to 12 subjects. Are they older adults? What was their reaction to the measurements? What are the characteristics of these subjects?

The data presented in the figures are real? Where are you positioned in the research? What is next? Will you make tests with real data? You could tell us in future works, and it will give us an idea of the progress of your research.

Section II, first paragraph, row 7, it says: "to a human hand. the BioTAC biomimetic tactile sensor" and should be: "to a human hand. The BioTAC biomimetic tactile sensor".

REVIEW NO. 2

Comments to the authors:

The paper presents a robotic solution for vital sign monitoring based on a robotic arm provided with sensors. The authors explain the monitoring, transmission, storage and visualization process.

The following are suggestions to improve the paper:

- Define tactile sensing

- Add references to scanadu, kito, Philips camera, soteria, etc.

- The authors stated: "This is because it is much more effective to access vital signs data stored in the form of a file than as a DB." It would be nice

if the authors mention why it is more effective a file than a DB.

-The authors said: "We have developed and evaluated algorithms for determining a human's BPM, Pulse to Pulse Interval (PPI), RR and Breath to Breath Interval (BBI)". The paper does not show a quantitative evaluation of the algorithms to understand how the performance compares to standard equipment. The authors must specify if the readings are accurate or if it is just a raw approximation to test the workflow of the entire system.

REVIEW NO. 3

Comments to the authors:

The paper proposes the use of a vital sign measuring robotic system together with Cloud computing to intelligently process big data and ascertain the current health status of the service user.

I cannot understand in section II about "12 healthy human subjects". Why 12? Where are the results of these collect data?

The new results of this paper are about of the cloud computing to help the users of the system (patient or physicians), because the hardware ("the Shadow Hand") was developed before.

In fact, the idea and the prototype of the "the Shadow Hand" are an assistive technology very important. However, the authors must better explained the results of this new "interface" to data (for example: figures 3 and 4).

REVIEW NO. 4

Comments to the authors:

The Introduction section is rather long so it would be helpful for the reader if some subsection titles

were

inserted (or split the section into more parts).

The contribution in this paper compared to others and own earlier work could have been described.

A possible accepted paper should use the IEEE/WCCI specified font type.

Some of the font sizes in figure 3 are too small.

REVIEW NO. 5

Comments to the authors:

I consider this work is interesting, but out of the scope of this conference.